

band 902-928 MHz, except that the maximum authorized bandwidth for local-area highway beacons systems operating in the bands 902-906 and 924-928 MHz shall be 6 MHz.

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(m) For transmitters authorized under Subpart F that operate in the 902-928 MHz band the peak power of any emission shall be attenuated below the power of the highest emission contained within the authorized channel bandwidth in accordance with the following schedule:

(1) On any frequency within the authorized bandwidth: Zero dB.

(2) On any frequency outside of the authorized bandwidth: $55 + 10\log(P)$ dB where (P) is the highest emission (watts) of the transmitter inside the authorized bandwidth.

(3) The resolution bandwidth of the instrumentation used to measure the emission power shall be 100 kHz. If a video filter is used, its bandwidth shall not be less than the resolution bandwidth.

(4) Emission power (P) shall be measured in peak values.

10. Section 90.213 is amended by adding the 902-928 MHz band to the table in paragraph (a) to read as follows:

§ 90.213 Frequency tolerance.

(a) * * *

Frequency Tolerance

Frequency range	Fixed and base stations		Mobile stations	
	Over 200 W output power	200W or less output power	Over 2W output power	2W or less output power
* * * * *				
902-928 (wide-area LMS systems)	.0005	.0005	.0005	.0005
902-928 (local-area LMS systems)	(14)	(14)	(14)	(14)

11. Section 90.239 is removed and reserved.



APPENDIX C

AMTECH ALTERNATIVE BAND PLAN

**APPENDIX C
(AMTECH ALTERNATIVE BAND PLAN)**

A. Part 2 of Chapter 1 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

**PART 2 - FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS;
GENERAL RULES AND REGULATIONS**

1. The authority citation for Part 2 continues to read as follows:

Authority: Sec. 4, 302, 303, and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154, 154(i), 302, 303, 303(r), and 307, unless otherwise noted.

2. Section 2.106 is amended by adding "Private Land Mobile (90)" to the FCC use designators in the row from 902-928 MHz in the table and be revising footnotes US218 and US275 to read as follows:

§ 2.106 Table of Frequency Allocations

* * * * *

International table		United States table		FCC use designators
* * *	Government	Non-Government	Rule Part(s)	Special-Use frequencies
* * * * *				
* * *	902-928 RADIOLOCATION	902-928	Private Land Mobile (90). Amateur (97).	915 + 13 MHz Industrial, scientific, and medical frequency.
	707	707		
	US215 US218	US215 US218		
	US267 US275	US276 US275		
	G11 G59			

* * * * *

US218 The band 902-928 MHz is available for Location and Monitoring Service (LMS) systems subject to not causing harmful interference to the operation of all Government stations authorized in these bands. These systems must tolerate interference from the operation of Industrial, scientific, and medical (ISM) devices and the operation of Government stations authorized in these bands.

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PART 90 - PRIVATE LAND MOBILE RADIO SERVICES

§ 90.7 Definitions.

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Highway beacons: A high power (100 W ERP or less) LMS base station used to identify units passing a specified section of highway and to communicate with such units.

involved. The signalling must occur in the 25-50 MHz, 150-170 MHz, 450-512 MHz, or 902-928 MHz bands and must be an essential element of the determination of the unit's location. Methods that allow the location of the unit to be determined independently of the signalling methods, e.g. dead-reckoning, or

4. Section 90.103 is amended by adding 902-928 MHz to the Table in paragraph (b), by adding new paragraph (c)(31), by removing paragraph (d) and by redesignating existing paragraph (e) as paragraph (d) to read as follows:

§ 90.103 Radiolocation Service.

* * * * *

(b) * * *

Radiolocation Service Frequency Table

Frequency or band	Class of Station	Limitation
* * * * *		
Megahertz:		
* * *		
902 to 928	do	31
* * * * *		

(c) * * *

(31) The 902-928 MHz band is available for LMS operations in accordance with section 90.105. Operations will not cause interference to government stations which operate in these bands and must tolerate interference from industrial, scientific, and medical (ISM) devices and from government stations which operate in these bands.

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5. A new Section 90.105 is added to subpart F to read as follows:

§ 90.105 Location and Monitoring Service

(a) These provisions authorize the licensing of systems in the location and monitoring service (LMS). LMS systems utilize nonvoice radio techniques to determine the location of location units. LMS licensees authorized to operate a system in the 902-928 MHz band may serve individuals, federal government agencies and entities eligible for licensing in Part 90.

(b) LMS operations in the 902-928 MHz band will not cause interference to government stations which operate in these bands and must tolerate interference from industrial, scientific, and

medical (ISM) devices and from government stations which operate in these bands.

(c) Frequencies for LMS operations are assignable as follows:

(1) Wide-area and local-area LMS systems will be authorized in the 802-828 MHz bands on a shared basis subject to the height

G1D or P0N emission must be received from all existing co-channel licensees using voice emissions within the applicable mileage limits. If there is interference with voice operations and required agreement was not received, or operation was authorized on a secondary noninterference basis, the licensee of the LMS system is responsible for eliminating the interference.

(iii) Frequencies additional to any assigned under paragraph (b)(4)(i) of this section will not be assigned to the same licensee at any stations located within 64 km (40 miles) of any station in which the licensee holds an interest until each of such licensee's frequencies for LMS operation is shown to accommodate not less than 90 percent of the frequency loading requirements specified in paragraph (b)(4)(i) of this section.

(d) Each application to license an LMS system shall include the following supplemental information:

(1) A detailed description of the manner in which the system will operate, including a map or diagram.

(2) For operations requiring more than 1 MHz of bandwidth, the necessary or occupied bandwidth of emission, whichever is greater.

(3) The data transmission characteristics as follows:

(i) The vehicle location update rates:

(ii) Specific transmitter modulation techniques used:

(iii) For codes and timing scheme: A table of bit sequences and their alphanumeric or indicator equivalents, and a statement of bit rise time, bit transmission rates, bit duration, and interval between bits.

(iv) A statement of amplitude-versus-time of the interrogation and reply formats, and an example of a typical message transmission and any synchronizing pulses utilized.

(4) A plan to show implementation schedule during the initial license term.

(e) LMS stations are exempted from the identification requirements of § 90.425; however, the Commission may impose automatic station identification requirements when determined to be necessary for monitoring and enforcement purposes.

(f) All instruction manuals, operator manuals, and brochures for an LMS device must display the following warning:

This device complies with Part 90 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference to Federal Government operations using this spectrum and (2) this device must accept any interference received from Federal Government operations and from Industrial, Scientific, and Medical devices using this spectrum, including interference that may cause undesired operation.

6. Section 90.179 is amended by revising paragraph (f) to read as follows:

§ 90.179 Shared use of radio stations

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(f) Above 800 MHz, shared use on a for-profit private carrier basis is permitted only by SMR. Private Carrier Paging, and LMS licensees. See Subparts F, P, and S of this part.

7. Section 90.203 is amended by adding new paragraph (b)(7) to read as follows:

§ 90.203 Type Acceptance required.

* * * * *

(b) * * *

(7) Transmitters used in LMS systems in the 902-928 MHz band authorized prior to [effective date of rules].

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8. Section 90.205(b) is amended by adding the 902-928 MHz band to the table and by adding footnote (13) to read as follows:

§ 90.205 Power.

* * * * *

(b) * * *

Frequency range (megahertz)	Maximum Output power (watts)	Maximum effective radiated power (watts)
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902-928	(¹³)
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¹³ The maximum effective radiated power (ERP) of local-area LMS systems highway beacons is 100 W. The maximum ERP of local-area LMS system base stations is 30 W (with a height limitation of 10 meters) and the maximum ERP of LMS portable stations is 10 W in the 902-906, 910-920, and 924-928 MHz sub-bands; 200 mW for base stations and portables in the 906-907, 909-910, 920-921.

(10) The maximum authorized bandwidth shall be 26 MHz and the minimum authorized bandwidth shall be 2 MHz for wide-area LMS systems in the band 902-928 MHz. The maximum authorized bandwidth shall be 26 MHz for local-area LMS operations in the band 902-928 MHz, except that the maximum authorized bandwidth for local area highway systems operating in the band

10. Section 90.213 is amended by adding the 902-928 MHz band to the table in paragraph (a) to read as follows:

§ 90.213 Frequency tolerance.

(a) * * *

Frequency Tolerance				
Frequency range	Fixed and base stations		Mobile stations	
	Over 200 W output power	200W or less output power	Over 2W output power	2W or less output power
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902-928 (wide-area LMS systems)	.0005	.0005	.0005	.0005
902-928 (local-area LMS systems)	(14)	(14)	(14)	(14)

11. Section 90.239 is removed and reserved.